

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

Claims 2-22 were pending in this Application. In this Amendment, claims 2, 3, 8, 10, 12, 13, 15, and 21 have been amended and claims 23 and 24 have been added. No new matter has been added. Accordingly, upon entry of this Amendment, claims 2-24 will be pending.

In the Office Action mailed May 23, 2008, the prior rejections of the pending claims were withdrawn and claims 2-7, 9, and 13-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,941,110 to Kloper et al. ("Kloper") in view of U.S. Publication No. 2006/0176850 to Gan et al. ("Gan"). Claims 8 and 10-12 were deemed allowable if rewritten in independent form to include all of the limitations of their respective base claim and any intervening claims.

Allowable Subject Matter

Applicant acknowledges with thanks the Examiner's indication of allowable subject matter. In this Amendment, in accordance with the Examiner's indication, Applicant has amended each of claims 8, 10, and 12 into independent form to recite all of the limitations of base claim 2 and any respective intervening claims. Accordingly, claims 8, 10, and 12 should be allowable upon entry of this Amendment. Likewise, claim 11, which depends from claim 10, should be allowable, at least due to its dependence from allowable claim 10 and for the additional features recited therein.

Rejection Of Claims 2-7, 9, And 13-22 Under 35 U.S.C. § 103(a)

In this Amendment, Applicant has amended each of independent claims 2, 13, and 21 to more explicitly recite the inventive clustering process of the present invention, which is neither taught nor suggested by the cited art. Although Applicant believes that the clustering process recited in each of claims 2, 13, and 21 is neither taught nor suggested by Kloper, Applicant infers that the Examiner's position is that the teachings of Kloper that disclose adjusting frequency of a device to avoid interference read on the clustering process recited in claims 2, 13, and 21. Accordingly, to further clarify the clustering process of Applicant's invention, several features of clustering are explicitly recited in the amended claims. Support for these amendments can be found at, for example, Figures 9, 11a-11b, 13, 14a-14b, 15, and 16, and the corresponding text of the specification.

Amended claim 1 recites, for example, a method for avoiding interference in a radio communications band, wherein hopping frequencies employed by a first RF device cluster in one or more frequency ranges within the radio communications band, wherein during clustering, a second frequency range within the radio communications band is not occupied by any channel used by the first RF device, the second frequency range being continuous and having a width corresponding to a plurality of channels capable of transmitting communications of the first RF device. This inventive feature can be further understood with the aid of Figures 10 and 11a-11b. Figure 10 illustrates an example of interference between a first frequency hopping device (WDCT) and an interferer (BT) that is (in this case) a second frequency hopping device. As shown, both devices employ a large number of channels that span the frequency range of the

radio communications band (total available bandwidth), in which several hop frequencies employed by the WDCT device overlap with BT hop frequencies, thereby potentially causing interference between the devices.

Figure 11a illustrates an example of clustering employed by the WDCT device in accordance with the aspect of the invention recited in claims 2, 13, and 21. The channels assigned to the WDCT device during clustering are all in the lower frequency range of the communications band, wherein no channels of the WDCT hop sequence are in the high frequency range (“a second frequency range within the radio communications band is not occupied by any channel used by the first device”). The unoccupied frequency range corresponds to a range that can accommodate a plurality of communications channels that could otherwise carry WDCT (or BT) communications (“the second frequency range having a width corresponding to a plurality of contiguous channels capable of transmitting communications of the first RF device”).

One aspect of the inventive clustering process is illustrated in Figure 11b, where an interferer that is a second FHSS device (BT) produces a hop sequence in which the channels used in the hop sequence are located in the unoccupied (by the WDCT device during clustering) frequency range. As discussed at paragraph [0044] of the present specification, an FHSS interferer that has adaptive frequency hopping capability can adjust frequencies used in its hop sequence to avoid detected collisions with another interferer (the WDCT and BT channel overlap illustrated in the low frequency range of Figure 11a). Thus, in accordance with the present invention, a first FHSS device facilitates avoidance of interference with a second FHSS device

by “inducing” the second FHSS device to use its adaptive capability to populate its hop channels in a frequency range left unoccupied by the first FHSS device.

Figure 13, in conjunction with Figure 14a, illustrates a variant of the above-described process, in which the first FHSS device (WDCT) clusters in a first frequency range that provides a second frequency unoccupied by the WDCT device, in which an 802.11b band interferer is present and in which an open sub-range exists at the highest frequency range of the communications band, so that the open sub-range is eventually occupied by a BT device that employs adaptive hopping (Figure 14a).

Kloper, while disclosing that a device may avoid interference by adjusting the transmission frequency of a communication channel employed (column 5, lines 39-59), falls well short of teaching the clustering process recited in amended claims 2, 13, and 21. In particular, nothing in Kloper teaches or suggests an interference avoidance system or method, wherein, during clustering, a continuous frequency range corresponding to a plurality of FHSS channels is left unoccupied by the first device. At most, Kloper teaches that the frequency of *a channel* used for communication may be changed to avoid interference in an *unspecified manner*.

Accordingly, Applicant respectfully submits that amended claims 2-7, 9, and 13-22 are patentable over the cited art.

In addition, claims 23 and 24, which depend from respective base claims 2 and 13, have been added to recite features formerly recited in claims 2 and 13, which are directed to sub-steps involved in the step of detecting an interferer that is recited in the amended base claims. Claims

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23-24 should also be patentable over the cited art due at least for their dependence from a respective allowable base claim and for the additional features recited therein.

In view of the foregoing all, of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone Applicant's undersigned representative at the number listed below.

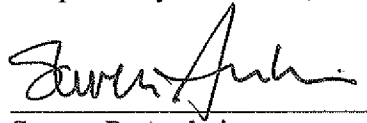
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